What is claimed is:

1. A method of detecting and recovering from violations in a peer-to-peer relay network, comprising:

5   receiving a message at a peer system from a sending peer system connected to said peer system in a peer-to-peer relay network;

detecting a violation in said received message; and

sending an alert message to each peer system connected to said peer system in said peer-to-peer relay network;

10   wherein each peer system in said peer-to-peer relay network stores a connection limit defining a number of other peer systems up to which that peer system is permitted to connect, and

each peer system stores a set of one or more relay rules for relaying data to other peer systems connected to that peer system.

15

2. The method of claim 1, wherein:

said violation is a cheating violation.

3. The method of claim 2, further comprising:

20   receiving a respective additional message from each of at least one other peer systems connected to said peer system;

wherein detecting said cheating violation includes:

comparing said message from said sending peer system with each of said additional messages; and

25   determining that said message from said sending peer system is different from at least one of said additional messages.

4. The method of claim 2, wherein:

detecting said cheating violation includes:

30   generating predicted data;

comparing said message from said sending peer system with said predicted data; and

determining that said message from said sending peer system is different from said predicted data.

5

5. The method of claim 4, further comprising:

sending said predicted data to each peer system connected to said peer system in said peer-to-peer relay network.

10

6. The method of claim 1, wherein:

said violation is a security violation.

7. The method of claim 6, wherein:

detecting said security violation includes detecting invalid data in said message.

15

8. The method of claim 6, wherein:

detecting said security violation includes detecting said message was sent using improper sending procedures.

20

9. The method of claim 8, wherein:

said message was sent as part of denial of service attack.

10. The method of claim 1, further comprising:

ignoring further messages sent by said sending peer system.

25

11. The method of claim 1, further comprising:

causing said sending peer system to disconnect from said peer-to-peer relay network.

30

12. The method of claim 1, further comprising:

sending said alert to a server connected to said peer system.

00156490

13. The method of claim 1, further comprising:

the data relayed by peer systems is update data for a network environment.

5   14. The method of claim 1, wherein:

the data relayed by peer systems is update data for an online game.

15. The method of claim 1, wherein:

at least one peer system is a network-enabled game console.

10

16. The method of claim 1, wherein:

at least two peer systems are connected through the Internet.   \

17. A peer system in a peer-to-peer relay network, comprising:

15   means for receiving a message at a peer system from a sending peer system

connected to said peer system in a peer-to-peer relay network;

means for detecting a violation in said received message; and

means for sending an alert message to each peer system connected to said peer

system in said peer-to-peer relay network;

20   wherein each peer system in said peer-to-peer relay network stores a connection

limit defining a number of other peer systems up to which that peer system is permitted to

connect, and

each peer system stores a set of one or more relay rules for relaying data to other

peer systems connected to that peer system.

25

18. The peer system of claim 17, wherein:

said violation is a cheating violation.

19. The peer system of claim 17, wherein:

30   said violation is a security violation.

20. The peer system of claim 17, further comprising:

means for sending said alert to a server connected to said peer system.

21. A computer program, stored on a tangible storage medium, for use in a peer

5   system in a peer-to-peer relay network, the program comprising executable

instructions that cause a computer to:

process a received message at a peer system from a sending peer system

connected to said peer system in a peer-to-peer relay network

detect a violation in said received message; and

10   send an alert message to each peer system connected to said peer system in said

peer-to-peer relay network;

wherein each peer system in said peer-to-peer relay network stores a connection

limit defining a number of other peer systems up to which that peer system is permitted to

connect, and

15   each peer system stores a set of one or more relay rules for relaying data to other

peer systems connected to that peer system.

22. The computer program of claim 21, wherein:

said violation is a cheating violation.

20

23. The computer program of claim 21, wherein:

said violation is a security violation.

24. The computer program of claim 21, further comprising executable instructions

25   that cause a computer to:

send said alert to a server connected to said peer system.

                                                                       00156490